

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claim 1. (Currently Amended) A computer-readable storage medium storing control logic for causing a computer to implement a method of offering a service, described in a service description document, in a communication network, said method ~~description document for a service offered by a server in a communication network,~~ comprising:

extracting, from the service description document, a first abstract part adapted to describe at least one message exchanged over the communication network when the service is implemented, wherein the first abstract part includes a description of abstract constraints associated with a binary multimedia document; [[and]]

extracting, from the service description document, a second concrete part adapted to describe [[the]] information relating to [[the]] transmission of the messages over the communication network;[[,]]

~~wherein said first abstract part comprises a description of abstract constraints associated with a binary multimedia document.~~

extracting a content description associated with the multimedia document;

comparing the content description and the description of the abstract constraints extracted from the service description document; and

transmitting an error message, if the content description does not satisfy

the abstract constraints.

Claim 2. (Currently Amended) A computer-readable storage medium ~~service description document~~ according to claim 1, ~~characterized in that~~ wherein said description of the abstract constraints is represented using the semantics of a description language of a content of ~~[[a]]~~ the binary multimedia document.

Claim 3. (Original) A computer-readable storage medium ~~service description document~~ according to one of Claims 1 to 2, ~~characterized in that~~ wherein said description of abstract constraints is represented using the semantics defined by ~~the MPEG7~~ a Moving Picture Experts Group 7 (MPEG7) standard.

Claim 4. (Currently Amended) A computer-readable storage medium ~~service description document~~ according to one of Claims 1 to 2, ~~characterized in that~~ wherein said description of abstract constraints is represented in a mark-up language of the Extensible Markup Language (XML) type.

Claim 5. (Currently Amended) A computer-readable medium ~~service description document~~ according to one of Claims 1 to 2, characterized in that said description of abstract constraints is represented in a schema language ~~such as XML-Schema or Relax-NG, and~~ includes tags ~~being defined using the semantics of the MPEG7~~ a Moving Picture Experts Group 7 (MPEG7) standard.

Claim 6. (Currently Amended) A computer-readable storage medium~~service~~
~~description document~~ according to one of Claims 1 to 2, ~~characterized in that~~ wherein said
description of abstract constraints is represented in a description language of a content of the
multimedia document, tags being adapted to integrate directly or by reference attributes
represented in a schema mark-up language ~~such as XML-Schema~~.

Claim 7. (Currently Amended) A computer-readable storage medium ~~service~~
~~description document~~ in accordance with Claim 6, ~~characterized in that~~ wherein the description
language of ~~[[a]]~~ the content of the multimedia document is defined according to ~~the MPEG7 a~~
Moving Picture Experts Group 7 (MPEG7) standard.

Claim 8. (Currently Amended) A computer-readable storage medium~~service~~
~~description document~~ according to one of Claims 1 to 2, ~~characterized in that~~ wherein said
description of abstract constraints is represented in a schema language ~~such as Schematron~~
adapted to define a set of minimum constraints.

Claim 9. (Currently Amended) A computer-readable storage medium~~service~~
~~description document~~ according to one of Claims 1 ~~[[,]]~~ to 2 and 7, ~~characterized in that~~ wherein
said description of abstract constraints is inserted in a sub-part of said first abstract part, and is
adapted to describe an abstract structure of the messages exchanged.

Claim 10. (Original) A computer-readable storage medium~~service description document~~ according to Claim 9, ~~characterized in that~~wherein said first abstract part comprises a second sub-part adapted to declare at least one elementary message pointing to said description of the abstract constraints.

Claim 11. (Currently Amended) A computer-readable storage medium~~service description document~~ according to Claim 10, ~~characterized in that said~~wherein the elementary message is associated with an attribute adapted to specify that the message comprises a binary multimedia content type.

Claim 12. (Currently Amended) A method of producing a request for a service offered by a server in a communication network, wherein the service being is described in a service description document, the method comprising: ~~according to one of claims 1, 2, 7, 10 and 11, characterized in that it comprises the following steps:-~~

reading the service description document~~of a service~~;

selecting a first abstract part of the service description document, wherein the first abstract part is adapted to describe at least one message exchanged over the communication network when an operation associated with the service is implemented;

extracting a description of abstract constraints, wherein the description of the abstract constraints is associated with a binary multimedia document;

selecting ~~[[a]~~ the binary multimedia document according to the description of the abstract constraints; ~~[[and]]~~

producing a request ~~intended~~ for the server in the communication network,
wherein the request includes including the binary multimedia document selected;
comparing the content description and the description of the abstract
constraints extracted from the service description document; and
transmitting the request to the server, if the content description satisfies the
abstract constraints.

Claim 13. (Currently Amended) A method of validating a multimedia document when a service offered by a server in a communication network is implemented, wherein the service ~~being is~~ associated with a service description document, ~~characterized in that~~ it comprises the following steps: the method comprising:

acquiring the multimedia document;
extracting a description of abstract constraints associated with a binary multimedia document from the service description document ~~of a service~~;
extracting a content description associated with the multimedia document;
[[and]]
comparing the content description and the description of the abstract constraints extracted from the service description document; and
implementing the service on the multimedia document, if the content description satisfies the abstract constraints.

Claim 14. (Currently Amended) ~~A~~ The method ~~of validating~~ according to

claim 13, ~~characterized in that~~ wherein the description of the abstract constraints is represented in a language describing a content of ~~[[a]]~~ the multimedia document.

Claim 15. (Currently Amended) ~~A~~ The method ~~of validating~~ according to one of claims 13 or 14, ~~characterized in that~~ wherein the language describing a content of the multimedia document is defined under ~~the MPEG7~~ a Moving Picture Experts Group 7 (MPEG-7) standard.

Claim 16. (Currently Amended) ~~A~~ The method ~~of validating~~ according to one of claims 13 or 14, ~~characterized in that~~ wherein, at said content description extraction step, ~~an MPEG7~~ a Moving Picture Experts Group 7 (MPEG-7) description of the multimedia document inserted in the multimedia document is extracted.

Claim 17. (Currently Amended) ~~A~~ The method ~~of validating~~ according to one of claims 13 or 14, ~~characterized in that it~~ wherein the method is implemented during a step of selecting ~~[[a]]~~ the multimedia document to be inserted in a message exchanged during ~~[[the]]~~ implementation of ~~[[a]]~~ the service offered by ~~[[a]]~~ the server in the communication network.

Claim 18. (Currently Amended) ~~A~~ The method ~~of validating~~ according to one of claims 13 or 14, ~~characterized in that it~~ wherein the method is implemented during a step of validating a request received by ~~[[a]]~~ the server in ~~[[a]]~~ the communication network for

implementing [[a]] the service described in [[a]] the service description document.

Claim 19. (Currently Amended) A device for producing a request for a service offered by a server in a communication network, wherein the service ~~being~~ is described in a service description document ~~in accordance with one of claims 1, 2, 7, 10 and 11, characterized in that it comprises:~~ the device comprising:

means for reading [[said]] the service description document ~~of a service~~;

means for selecting a first abstract part of the service description document,
wherein the first abstract part is adapted to describe at least one message exchanged over the communication network when an operation associated with the service is implemented;

means for extracting a description of abstract constraints associated with a binary multimedia document from the service description document;

means for selecting [[a]] the binary multimedia document according to the description of the abstract constraints; [[and]]

means for extracting a content description associated with the multimedia document;

means for comparing the content description and the description of the abstract constraints extracted from the service description document;

means for producing a request ~~intended~~ for the service offered by the server in the communication network, if the content description satisfies the abstract constraints, wherein the request includes ~~including~~ the binary multimedia document selected.

Claim 20. (Currently Amended) ~~A The device for producing a request for a service in accordance with~~ according to claim 19, characterized in that it is incorporated in: further comprising:

a microprocessor;

a read only memory adapted to store a program for producing ~~[[a]]~~ the request for ~~[[a]]~~ the service; and

a random access memory ~~comprising~~ including registers adapted to store ~~[[the]]~~ variables modified during ~~the running execution~~ of the program.

Claim 21. (Currently Amended) A device for validating a multimedia document during ~~[[the]]~~ implementation of a service offered by a server in a communication network, wherein the service ~~being~~ is associated with a service description document, characterized in that it comprises: the device comprising:

means for acquiring the multimedia document;

means for extracting a description of abstract constraints associated with ~~[[the]]~~ a binary multimedia document from the service description document ~~of a service~~;

means for extracting a content description associated with the multimedia document; and

means for comparing the content description and the description of the abstract constraints extracted from the service description document.

Claim 22. (Currently Amended) ~~A The device for validating a multimedia~~

document according to claim 21, ~~characterized in that it is incorporated in:~~ further comprising:

a microprocessor;

a read only memory adapted to store a program for validating ~~[[a]]~~ the multimedia document; and

a random access memory ~~comprising~~ including registers adapted to store variables modified during ~~the running~~ execution of the program.

Claims 23.-27. (Cancelled)

Claim 28. (Currently Amended) ~~[[An]]~~ A computer-readable storage medium storing control logic for causing a computer ~~information storage means, possibly totally or partially removable, which can be read by a computer system, comprising instructions for a computer program adapted to implement [[the]] a method of validating a multimedia document in accordance with one of claims 13 to 14, when this program is loaded in and run by the computer system.~~

Claim 29. (Currently Amended) ~~[[An]]~~ A computer-readable storage medium storing control logic for causing a computer ~~information storage means, possibly totally or partially removable, which can be read by a computer system, comprising instructions for a computer program adapted to implement [[the]] a method of producing a request according to claim 12, when this program is loaded in and run by the computer system.~~

Claims 30.-31. (Cancelled)

Claim 32. (New) The method according to claim 5, wherein the abstract constraints are represented in a XML-Schema language or in a Relax-NG language.

Claim 33. (New) The method according to claim 6, wherein the attributes are represented in a XML-Schema language.

Claim 34. (New) The method according to claim 8, wherein the description of the abstract constraints is represented in a Schematron language.